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PATENT ABSTRACTS OF JAPAN

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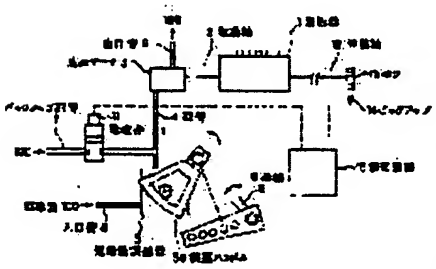
(54) LUBRICATOR DRIVING DEVICE

(57)Abstract:
PROBLEM TO BE SOLVED: To lubricate from a lubricator in a suitable amount at any time.
SOLUTION: A hydraulic motor 3 is connected to a lubricator 3 via a driving shaft 2, while a feed-supply adjuster 5 is connected to the hydraulic motor via a pipeline 4, and a loading shaft 6 out of a diesel engine is connected to an adjusting handle 5a of the feed-supply adjuster 5, and likewise a backup pipeline 7 is connected to the point midway in the pipeline 4, then a solenoid valve 11 is installed in the midway of the backup pipeline 7. A gear 13 is connected to the driving shaft 2 via a connecting shaft 12, and a pickup 14 detecting the rotational frequency of the gear 13 is installed in a spot nearby the gear 13. The pickup 14 is electrically connected to an input part of a control unit 15, while the solenoid valve 11 is electically connected to an output part of the control unit 15. With this constitution, in the case where the rotational frequency of the gear 13 is smaller than the specified value on the basis of a signal out of the pickup 14, the solenoid valve 11 is opened, but in the case where the rotational frequency of the gear 13 is larger than the specified value, the solenoid valve 11 is made so as to be closed.



DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the lubricator driving gear which drives the lubricator which supplies a lubricating oil to the cylinder of a diesel power plant etc.
[0002]
[Description of the Prior Art] The outline configuration of the conventional driving gear which drives the lubricator which supplies a lubricating oil to the cylinder of a diesel power plant etc. is shown in drawing 2 .
[0003] As shown in drawing 2 , the hydraulic motor 103 which operates the lubricator 101 concerned is connected with the lubricator 101 through the driving shaft 102. The amount regulator 105 of feeding which adjusts the amount of feeding to the hydraulic motor 103 concerned of the actuation oil 100 which drives the hydraulic motor 103 concerned is connected with the hydraulic motor 103 through piping 104. The load shaft 106 from a diesel power plant is connected with adjustment handle 105a of the amount regulator 105 of feeding. The backup piping 107 is connected in the middle of piping 104. The hand valve 110 is formed in the middle of the backup piping 107. In addition, the inlet pipe with which 108 supply the actuation oil 100 to the amount regulator 105 of feeding, and 109 are outlet pipes which collect the actuation oils 100 used with the hydraulic motor 103 among drawing 2 .
[0004] In such a lubricator driving gear, it corresponds to the load of a diesel power plant. Adjustment handle 105a of the amount regulator 105 of feeding is adjusted through the load shaft 106. When it is fed by the hydraulic motor 103 through piping 104 while the actuation oil 100 from an inlet pipe 108 has the amount of feeding adjusted, and a hydraulic motor 103 carries out revolution actuation of the driving shaft 102 with the rotational speed according to the amount of feeding of the actuation oil 100 The cylinder of a diesel power plant is made to lubricate with a lubricating oil by the suitable amount of supply according to a load from a lubricator 101. Moreover, by failure of the amount regulator 105 of feeding etc., when the amount of feeding of the actuation oil 100 to a hydraulic motor 103 is inadequate, a hand valve 110 is opened, the actuation oil 100 is fed into piping 104 from the backup piping 107, and the amount of feeding of the actuation oil 100 to a hydraulic motor 103 is filled up.
[0005]
[Problem(s) to be Solved by the Invention] In maintaining the endurance of a diesel power plant, in a diesel power plant, it is very important to supply the lubricating oil of optimum dose to a cylinder. For this reason, the lubricator driving gear is operating the lubricator 101 so that a lubricating oil may be quantitatively supplied to a cylinder according to the load of a diesel power plant. However, in the conventional lubricator driving gear which was mentioned above, when the load of a diesel power plant was too low, the amount of feeding of the actuation oil 100 fed into a hydraulic motor 103 became little too much, and there was a possibility of causing the lack of a lubricating oil to a cylinder.
[0006] Since it was such, this invention aimed at offering the lubricator driving gear which can always make lubrication from a lubricator optimum dose.
[0007]
[Means for Solving the Problem] The lubricator driving gear by this invention for solving the technical problem mentioned above The hydraulic motor connected with the lubricator through the driving shaft, and an amount adjustment means of feeding to adjust the amount of feeding of the actuation oil to said hydraulic motor, A detection means to detect the rotational speed of said driving shaft of said hydraulic motor, and a supplement means to connect with said hydraulic motor and to fill up an actuation oil, When the rotational speed of said driving shaft of said hydraulic

motor is smaller than a predetermined value, an actuation oil is made to feed into said hydraulic motor from said supplement means based on the signal from said detection means. When the rotational speed of said driving shaft of said hydraulic motor is larger than a predetermined value, it is characterized by coming to have the control means which stops feeding of the actuation oil from said supplement means to said hydraulic motor.

[0008]

[Embodiment of the Invention] The gestalt of operation of the lubricator driving gear by this invention is explained using drawing 1 . In addition, drawing 1 is the outline block diagram.

[0009] As shown in drawing 1 , the hydraulic motor 3 which operates the lubricator 1 concerned is connected with the lubricator 1 which supplies a lubricating oil to the cylinder of a diesel power plant through the driving shaft 2. The amount regulator 5 of feeding which adjusts the amount of feeding to the hydraulic motor 3 concerned of the actuation oil 100 which drives the hydraulic motor 3 concerned is connected with the hydraulic motor 3 through piping 4. The load shaft 6 from a diesel power plant is connected with adjustment handle 5a of the amount regulator 5 of feeding.

[0010] As shown in drawing 1 , the backup piping 7 is connected in the middle of said piping 4. The solenoid valve 11 is formed in the middle of the backup piping 7. On the other hand, through the connecting shaft 12, a gear 13 makes the same axle to said driving shaft 2, and is connected with it. Near the gear 13, the pickup 14 which detects the rotational speed of the gear 13 concerned is arranged. This pickup 14 is electrically connected to the input section of a control unit 15. The above-mentioned solenoid valve 11 It connects with the output section of a control unit 15 electrically. The control unit 15 concerned That is [based on the signal from pickup 14, it can adjust closing motion of a solenoid valve 11], when the rotational speed of a gear 13 is smaller than a predetermined value, a solenoid valve 11 is opened, and when the rotational speed of a gear 13 is larger than a predetermined value, a solenoid valve 11 is closed.

[0011] In addition, the inlet pipe with which eight feed the actuation oil 100 into the amount regulator 5 of feeding, and 9 are outlet pipes which collect the actuation oils 100 used with the hydraulic motor 3 among drawing 1 .

[0012] Piping 4, the amount regulator 5 of feeding, the load shaft 6, an inlet pipe 8, etc. constitute the amount adjustment means of feeding, the backup piping 7, a solenoid valve 11, etc. constitute a supplement means, a connecting shaft 12, a gear 13, pickup 14, etc. constitute a detection means, and the control unit 15 etc. constitutes the control means from the gestalt of such this operation.

[0013] In such a lubricator driving gear, it corresponds to the load of a diesel power plant. While adjustment handle 5a of the amount regulator 5 of feeding is adjusted through the load shaft 6 and the actuation oil 100 from an inlet pipe 8 has the amount of feeding adjusted, it is fed by the hydraulic motor 3 through piping 4. The cylinder of a diesel power plant is made to lubricate with a lubricating oil by the suitable amount of supply according to a load from the cylinder lubricator 1, when a hydraulic motor 3 carries out revolution actuation of the driving shaft 2 with the rotational speed according to the amount of feeding of the actuation oil 100.

[0014] Since the rotational speed of a gear 13 will also become low through a connecting shaft 12 here although the amount of feeding of the actuation oil 100 to a hydraulic motor 3 will become inadequate and the rotational speed of a driving shaft 2 will become low if the load of a diesel power plant is too low, Since a control device 15 opens a solenoid valve 11 and the actuation oil 100 is fed into piping 4 from the backup piping 7 based on the signal from pickup 14, the amount of feeding of the actuation oil 100 to a hydraulic motor 3 is filled up, and the rotational speed of a driving shaft 2 is raised. Moreover, if the rotational speed of a driving shaft 2 increases, since the rotational speed of a gear 13 will also increase through a connecting shaft 12, based on the signal from pickup 14, a control device 15 closes a solenoid valve 11, and stops feeding of the actuation oil 100 to the piping 4 from the backup piping 7, and it returns to the usual operating state.

[0015] That is, it enabled it to supplement a hydraulic motor 3 with the actuation oil 100 automatically so that the rotational speed of a driving shaft 2 may not become low too much.
[0016] Therefore, since according to such a lubricator driving gear a driving shaft 2 can be rotated so that the amounts of lubrication of the lubricating oil from a lubricator 1 to a cylinder may not run short also when the low time of the load of a diesel power plant and the amount regulator 5 of feeding break down, the endurance of a diesel power plant is maintainable.
[0017] In addition, although the rotational speed of a driving shaft 2 was detected by detecting the rotational speed of a gear 13 by pickup 14 with the gestalt of this operation, it is also possible to, detect the rotational speed of a driving shaft 2 for example, using a resolver, DYNAMO, an encoder, etc.
[0018]
[Effect of the Invention] The hydraulic motor with which the lubricator driving gear by this invention was connected with the lubricator through the driving shaft, An amount adjustment means of feeding to adjust the amount of feeding of the actuation oil to said hydraulic motor, and a detection means to detect the rotational speed of said driving shaft of said hydraulic motor, It is based on a signal from a supplement means to connect with said hydraulic motor and to fill up an actuation oil, and said detection means. When the rotational speed of said driving shaft of said hydraulic motor is smaller than a predetermined value, an actuation oil is made to feed into said hydraulic motor from said supplement means. From coming to have the control means which stops feeding of the actuation oil from said supplement means to said hydraulic motor, when the rotational speed of said driving shaft of said hydraulic motor is larger than a predetermined value Since a control means makes an actuation oil feed into a hydraulic motor and supplements it with it from a supplement means based on the signal from a detection means even if it is a case so that the amount of feeding of the actuation oil to the hydraulic motor from the amount adjustment means of feeding may decrease too much, lubrication from a lubricator can always be made into optimum dose.

Claim(s)]
[Claim 1] The lubricator driving gear characterized by providing the following The hydraulic motor connected with the lubricator through the driving shaft An amount adjustment means of feeding to adjust the amount of feeding of the actuation oil to said hydraulic motor A detection means to detect the rotational speed of said driving shaft of said hydraulic motor A supplement means to connect with said hydraulic motor and to fill up an actuation oil, and the control means which an actuation oil is made to feed into said hydraulic motor from said supplement means when the rotational speed of said driving shaft of said hydraulic motor is smaller than a predetermined value, and stops feeding of the actuation oil from said supplement means to said hydraulic motor based on the signal from said detection means when the rotational speed of said driving shaft of said hydraulic motor is larger than a predetermined value